

Claims

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1. Control system for an internal combustion engine, which has:

- a motor control apparatus (1),
- a sensor (2) with an interface (21) for the motor control apparatus,
- an evaluating unit (211) integrated into the interface (21) for the digitalization of measurements made by the sensor (2),
- a connecting line (22) between the sensor (2) and the interface (21) to transfer measurements made by the sensor,
- a connecting line (11) to transfer the digitalized measurements from the evaluating unit (211) to the motor control apparatus (1).

2. Control system according to claim 1, characterized in that the interface (21) is a plug connector in whose casing (23) the evaluating unit is integrated.

Claim 2

3. Control system according to ~~the foregoing claim~~, characterized in that the plug connector has an electrically conductive casing (23) to shield the evaluating unit (211).

4. Control system according to claim 2 or 3; characterized in that the plug connector or the corresponding female connector has a cooling flange or a cooling surface with a thermal connection to at least one power component of the evaluating unit (211).

Claim 1

5. Control system according to ~~any of the foregoing claims~~, characterized in that the sensor (2) is an exhaust gas probe.

Claim 1

6. Control system according to ~~any of the foregoing claims~~, characterized in that the interface (21) and the electrical connecting line (22) to the sensor are waterproof.

Claim 1
7. Control system according to ~~any of the foregoing claims~~, characterized in that the connecting line (22) between the sensor (2) and the interface (21) is electromagnetically shielded.

Claim 1
8. Control system according to ~~any of the foregoing claims~~, characterized in that the connecting line (11) to the motor control apparatus (1) is a system bus.

Claim 8
9. Control system according to ~~any of the foregoing claims~~, characterized in that a plurality of sensors ^{or} is connected through the system bus to the control apparatus (1).

Claim 1
10. Control system according to ~~any of the foregoing claims~~, characterized in that the evaluating unit (211) has a microprocessor.

Claim 10
11. Control system according to ~~the foregoing claim~~, characterized in that the microprocessor can be tuned with software to the individual sensor (2).

Claim 1
12. Control system according to ~~any of the foregoing claims~~, characterized in that a heater of the sensor is controllable by the evaluating unit (211).

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